FAIRCHILD SEMICONDUCTOR®

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TN2907A
PNP General Purpose Amplifier

- This device is designed for use as a general purpose amplifier and switch requiring collector currents to 500 mA.
- Sourced from process 63.

TO-226

1. Collector 2. Base 3. Emitter

Absolute Maximum Ratings* T_a=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current - Continuous	800	mA
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 ~ 150	°C

* This ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

1) These rating are based on a maximum junction temperature of 150 degrees C.

2) These are steady limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

3) All voltages (V) and currents (A) are negative polarity for PNP transistors.

Thermal Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation Derate above 25°C	625 5.0	mW mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case	83.3	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	200	°C/W

Electrical Characteristics* T_a=25×C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
Off Characteristics					
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C = 10μA, I_E = 0	60		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_C = 10μA, I_E = 0	60		V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C = 10mA, I_E = 0	5		V
I_{CBO}	Collector Cut-off Current	V_{CB} = 50 V, I_E = 0 V_{CB} = 50 V, I_E = 0, T_A = 150C		10 10	nA μA
I_{CEX}	Collector Cut-off Current	V_{CE} = 30 V, V_{BE} = 0.5 V		50	nA
On Characteristics					
h_{FE}	DC Current Gain	I_C = 0.1 mA, V_{CE} = 10 V I_C = 1.0 mA, V_{CE} = 10 V I_C = 10 mA, V_{CE} = 10 V I_C = 150 mA, V_{CE} = 10 V* I_C = 500 mA, V_{CE} = 10 V*	75 100 100 100 50	 300 	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C = 150 mA, I_B = 15 mA* I_C = 500 mA, I_B = 50 mA*		0.4 1.6	V V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C = 150 mA, I_B = 15 mA* I_C = 500 mA, I_B = 50 mA		1.3 2.6	V V
Small Signal Characteristics					
C_{obo}	Output Capacitance	V_{CB} = 10 V, I_E = 0, f = 100 kHz		8.0	pF
C_{ibo}	Input Capacitance	V_{EB} = 2.0 V, I_C = 0, f = 100 kHz		30	pF

* Pulse Test: Pulse Width £ 300ms, Duty Cycle = 2%

NOTES:
1) All voltages (V) and currents (A) are negative polarity for PNP transistors.

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